

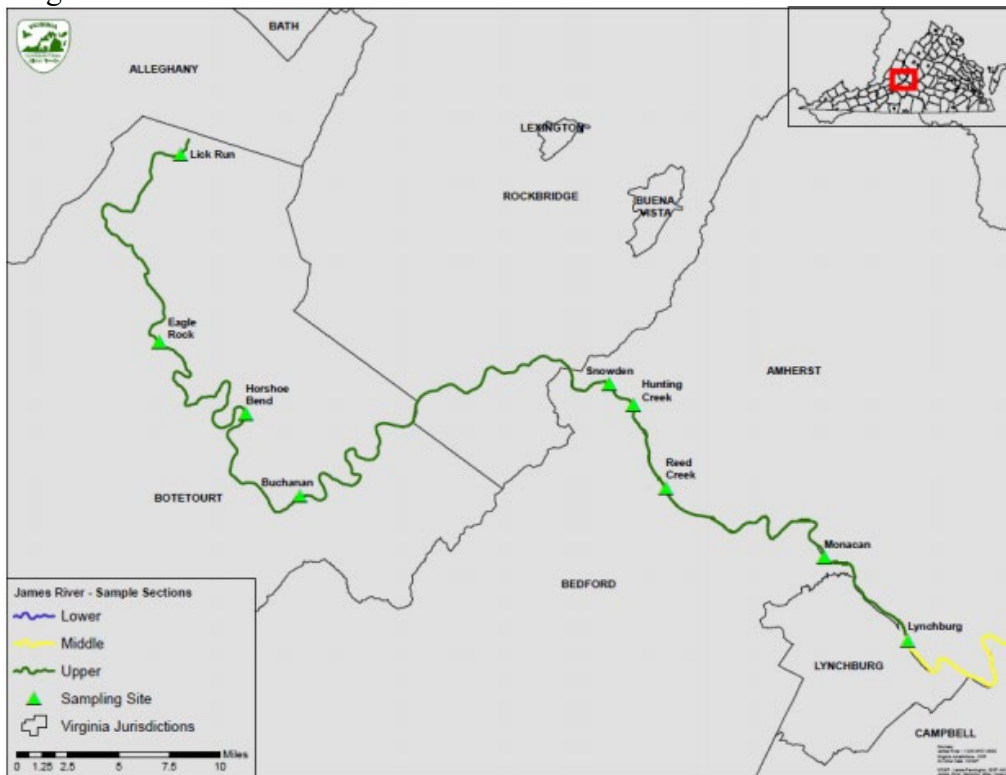


Non-Tidal James River 2021

The non-tidal James River stretches approximately 250 miles from the confluence of the Jackson and Cowpasture rivers in Botetourt County to the fall-line near Richmond. This stretch of the James River has long been considered a top Smallmouth Bass fishery. In addition to Smallmouth Bass anglers will find opportunities to catch sunfish and catfish throughout the river as well as Muskellunge in the river's upper end. Fishing regulations can be viewed online (<https://dwr.virginia.gov/waterbody/james-river-upper-middle/>) or in the table at the end of this report. Biologists routinely sample the river using boat electrofishing. Below are results from fall 2020 electrofishing surveys listed by river sections: Upper (Lick Run to Lynchburg), Middle (Lynchburg to Boshers' Dam), and Fall-line (Boshers' Dam to 14th Street).

Upper James River (Lick Run to Lynchburg)

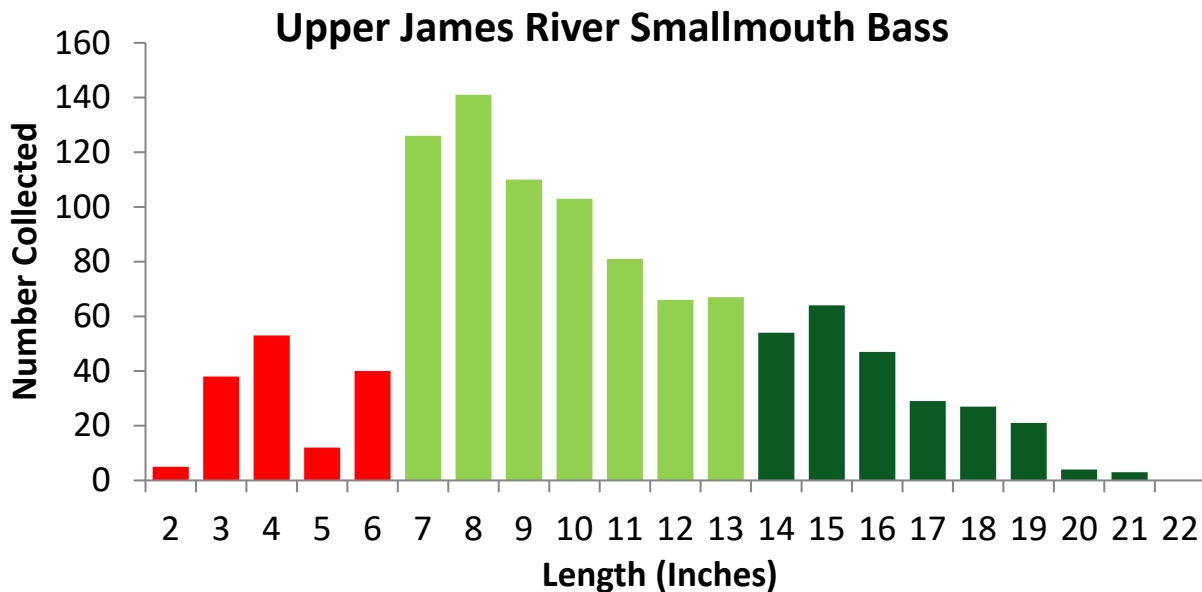
Beginning at the confluence of the Jackson and Cowpasture rivers near Iron Gate, the upper James River flows approximately 90 miles downstream to the City of Lynchburg. Smallmouth bass, muskie, catfish, rock bass, and other sunfish species provide diverse fishing opportunities to anglers on the upper James River. To evaluate the fish community, the Virginia Department of Wildlife Resources collected fish using an electrofishing boat at multiple sites from Iron Gate to Lynchburg.



Map of Upper James River sampling locations and major access sites

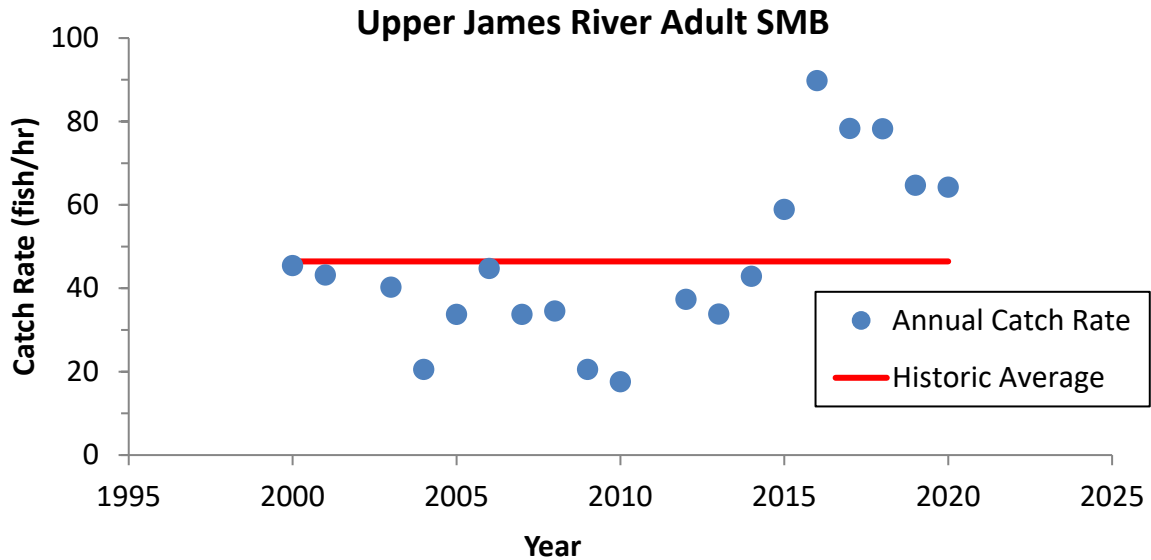
Smallmouth Bass:

Smallmouth bass, the most popular sportfish anglers seek, were the most abundant species collected in fall sampling. In 2020, 1,091 smallmouth bass, ranging from 3 to 22 inches, were collected. Juvenile smallmouth bass (individuals less than 7 inches) made up approximately 14% of all smallmouth bass collected. Due to the reduced numbers of juvenile smallmouth bass, fishing will be challenging in 2021 as fewer numbers of young fish are out there hammering your baits. Anglers can expect 10-12 smallmouth bass caught per day compared to the 50 per day of years past. While anglers enjoy targeting and catching larger adults, in years past constant action from young bass kept things interesting.



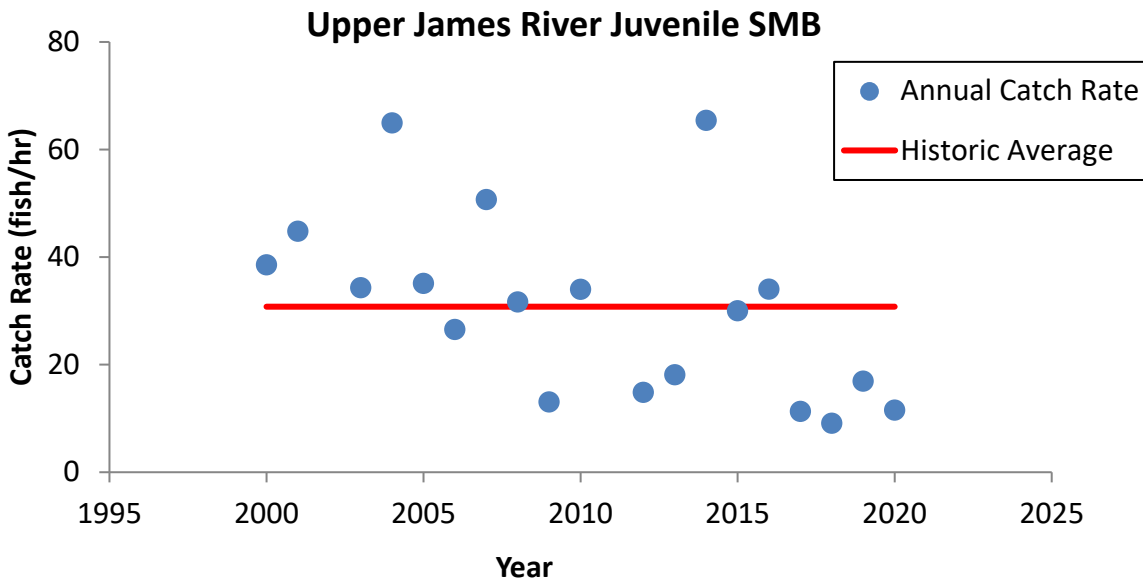
Smallmouth bass collected from the Upper James River in fall 2020 by length and number. Juvenile bass (less than 7 inches) are represented with red bars, while adult smallmouth bass are shown with green bars. Current regulations protect smallmouth bass between 14 and 22 inches (dark green bars).

The majority of adult smallmouth bass collected in 2020 samples were between 7 and 16 inches with approximately 29% of adult smallmouth bass collected between 14 and 22 inches and therefore protected under the current slot limit regulations. After collecting fish with electrofishing equipment, catch rates are calculated in terms of fish collected per hour. Catch rates of adult smallmouth bass in 2020 averaged 64 per hour. This is greater than the long-term average catch rate of 47 per hour and still one of the higher catch rates in the past 20 years.



Annual catch of adult Smallmouth Bass (greater than 7 inches) from 2000-2020 in the Upper James River, the red line represents the historic average catch rate.

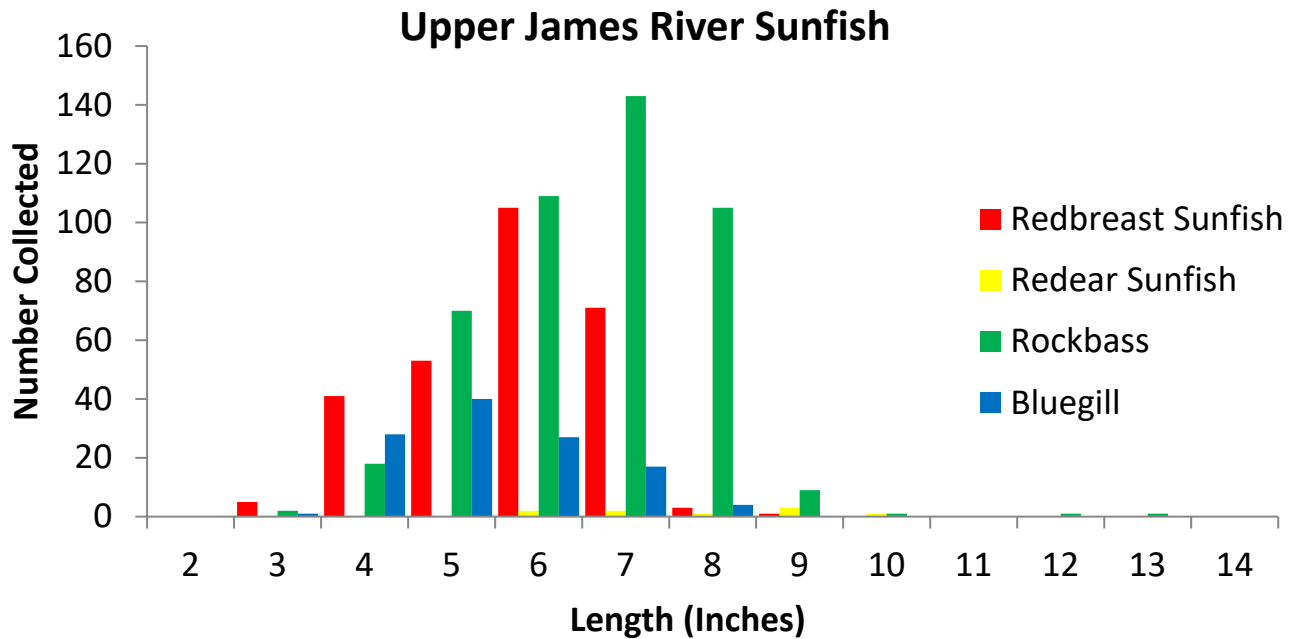
The fluctuation in catch rates over time is likely due to reduced spawning success and juvenile survival in recent years. In the upper James River, smallmouth bass less than 7 inches in the fall are juveniles and usually 5-18 months old; meaning those individuals were born in the spring of that year or the previous year. Juvenile survival appears to be best in years with moderate June river flows and poor with high or low flows during June. Since 2000, juvenile catch rates have varied from 6 to 65 fish per hour with an average of 30 fish per hour. In 2020, juvenile catch rates were below the long-term average with only 12 fish per hour.



Annual catch of juvenile Smallmouth Bass (less than 7 inches) from 2000-2020 in the Upper James River, the red line represents the historic average catch rate.

Sunfish:

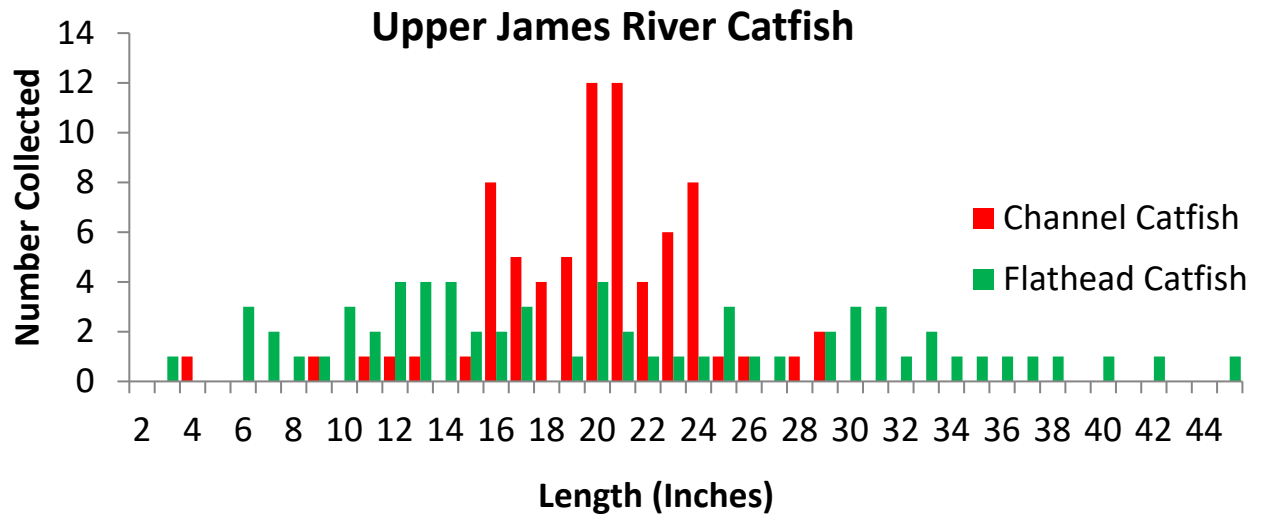
The upper James River is also home to a variety of sunfish including rock bass, redbreast sunfish, and bluegill. In 2020, a total of 865 sunfish were collected. Rock bass were the most abundant sunfish collected and most ranged from 3 to 9 inches in length. Redbreast sunfish and bluegill were also commonly collected and ranged from 3 to 8 inches in length. Although often overlooked, angling for sunfish can provide great entertainment especially using light tackle or fly-fishing. Angler seeking sunfish should focus on fishing near banks, aquatic vegetation, and fallen trees. Spinners, small grubs, crickets, and worms all make excellent baits for catching sunfish.



Numbers and sizes of Redbreast Sunfish, Redear Sunfish, Rock Bass, and Bluegill collected from the Upper James River in fall 2020.

Catfish:

Seventy-five channel catfish and 66 flathead catfish were collected in fall 2020 samples. There are abundant numbers of catfish in the 16-26 inch range for anglers wanting catfish. For the best success target deeper water. Some of the best numbers and largest sizes of flathead catfish can be found in downtown Lynchburg on the river. Anglers fishing from the bank or a boat can land some trophy sized flatheads. There are even a few blue catfish now making their way up the river from downstream to Scott’s Mill Dam in Lynchburg.



Number and lengths of Channel Catfish and Flathead Catfish collected from the Upper James River in fall 2020.

Muskellunge:



The largest and most challenging fish to catch in the upper James is the muskie. Muskies were collected at almost all sampling sites and were most abundant in pool areas. Forty-five muskies, ranging from 22 to 45 inches in length, were collected during fall community sampling in 2020. There is an ongoing study investigating the muskie population in the upper James, as this fishery

has grown in popularity over the last 10 years. Signs posted at different access points on the upper James River offer information about the study and how anglers can help if they catch a muskie with a numbered tag. Muskies can be very picky so anglers often use a variety of baits throughout the year including large crankbaits, spinnerbaits, tubes, and swimbaits.

\$\$ REWARD \$\$

Muskellunge tagging study in progress

PLEASE RECORD & REPORT INFO WITHIN 24 HOURS FOR REWARD

Information to record:

1. Tag ID number
2. Location of capture
3. Date and time caught

Report to:

Cory Bauerlien
Phone or text:
443-974-6171

\$50 rewards provided by Muskies Inc. & VA chapter of Muskies Inc.



Tagged fish are part of an ongoing catch-and-release mortality study. For more information, please contact Cory Bauerlien (cjbauerli@coastal.edu) or visit <http://muskymortality.weebly.com>



PLEASE DO **NOT** REMOVE TAGS

Rewards still sent for harvested fish

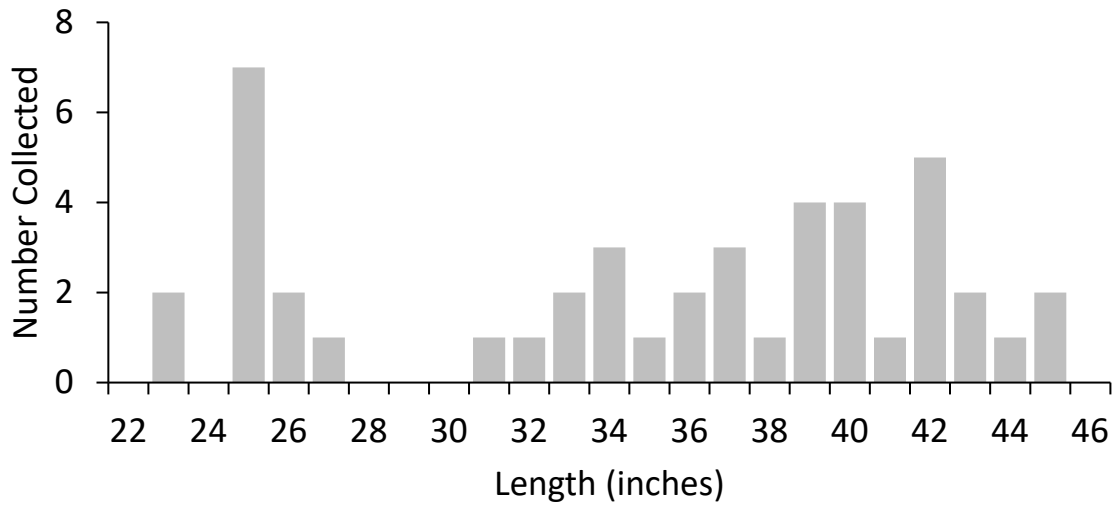
We thank you for your assistance.

Tag reports are vital to the success of this study.

Funding and support for this project provided by:



James River Muskellunge



Number and lengths of Muskellunge collected from the Upper James River in fall 2020.

For more information please contact

George Palmer

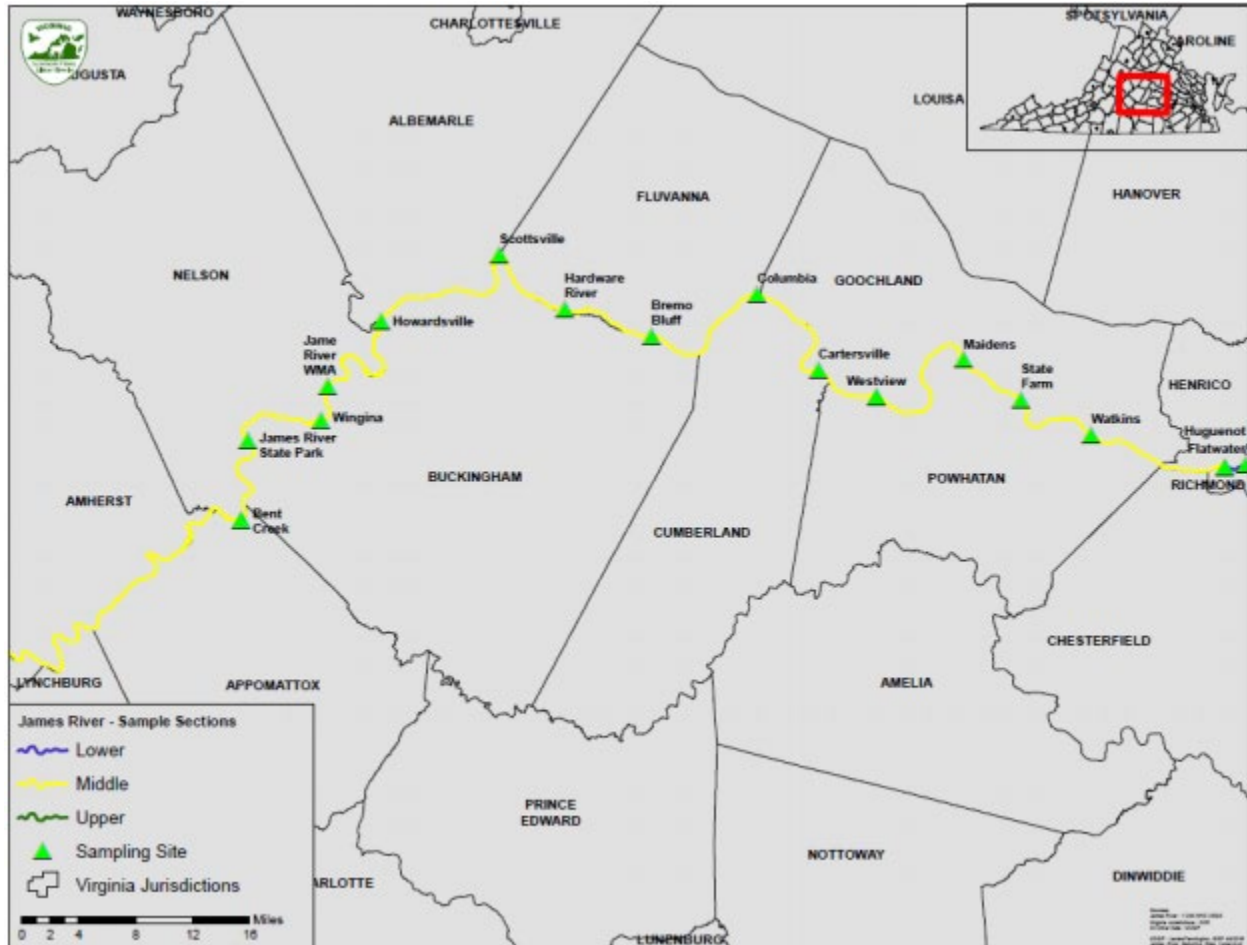
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Middle James River (Lynchburg to Boshers Dam)

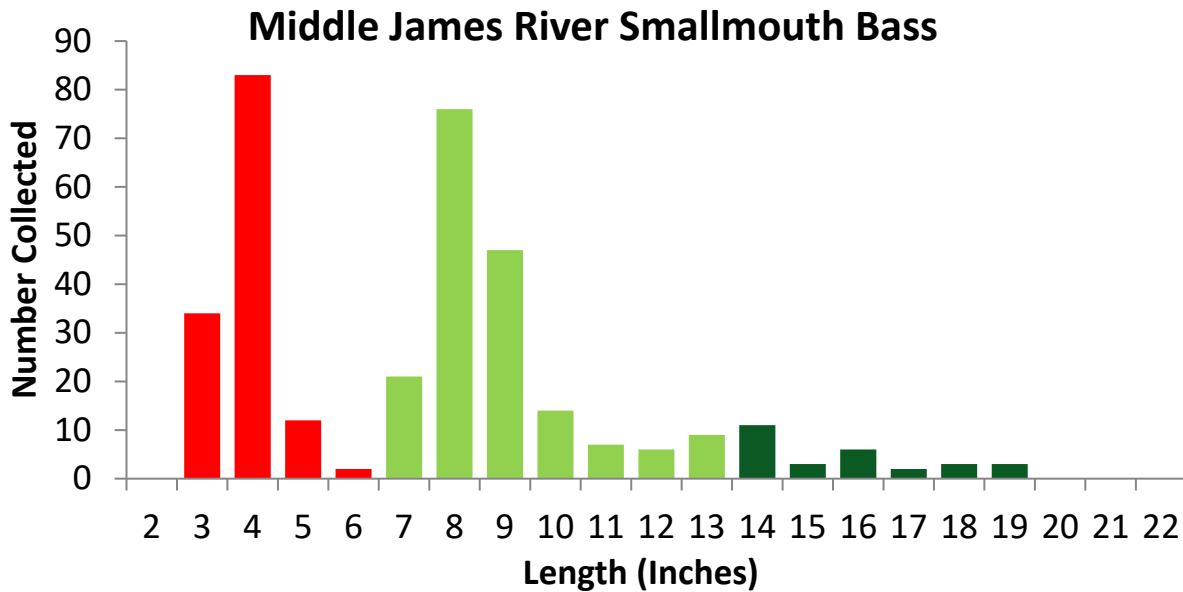
The middle James River consists of the 130 mile portion of the river between Lynchburg and Boshers Dam just upstream from Richmond. The middle section of the river consists of a series of shallow rocky riffles and slow deep pools. The middle river offers modest Smallmouth Bass action, fair numbers of sunfish, and an abundance of catfish.



Map of Middle James River Sampling Locations and access sites

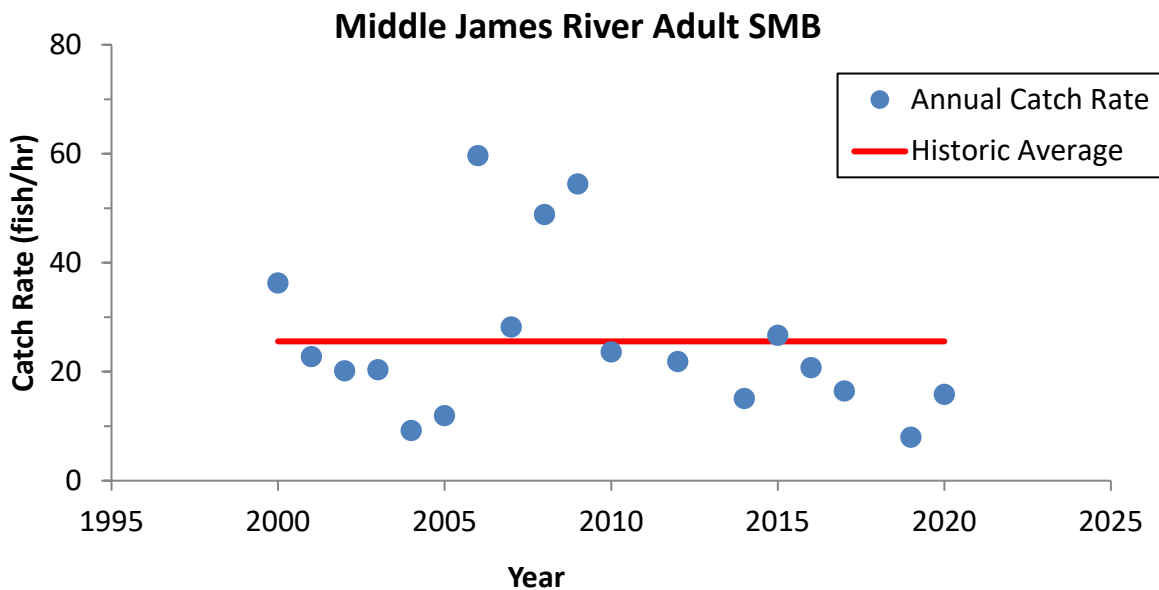
Smallmouth Bass:

Smallmouth Bass represent the dominant Sportfish present in the middle river. In Fall 2020, 339 smallmouth bass were collected in this stretch, ranging in length from 4 to 20 inches. Approximately 88% of these fish were less than 12 inches. Abundances of adult smallmouth have been low in the middle river over the last several years. However, favorable numbers of fish in the 7-9 inch range should begin entering the fishery in 2021 and provide anglers some action.



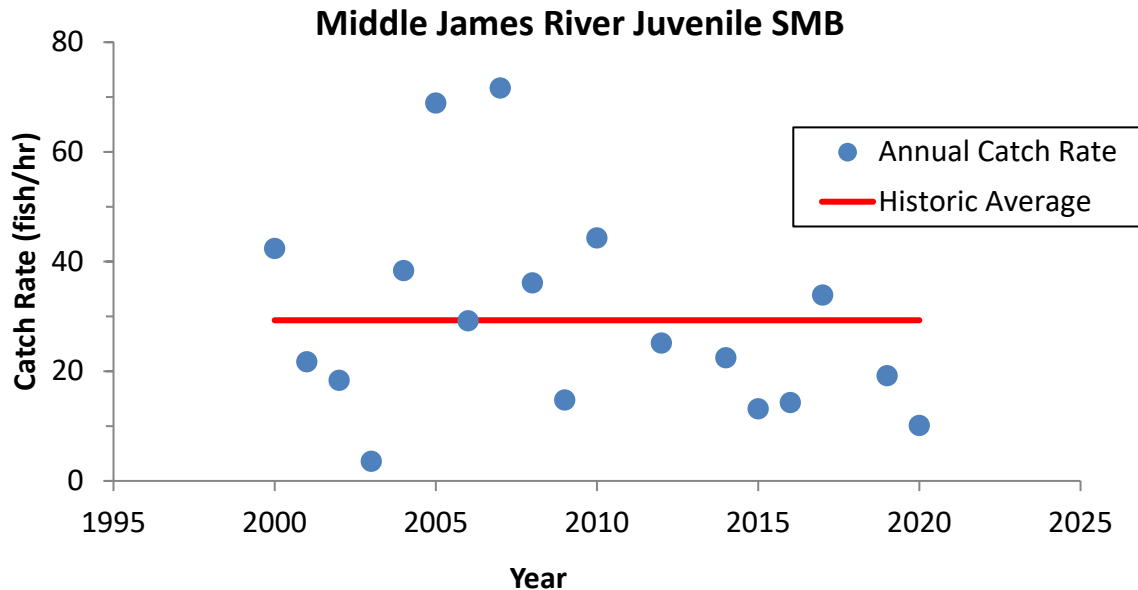
Smallmouth bass collected from the Middle James River in fall 2020 by length and number. Juvenile bass (less than 7 inches) are represented with red bars, while adult smallmouth bass are shown with green bars. Current regulations protect smallmouth bass between 14 and 22 inches (dark green bars).

Since 2015, adult smallmouth abundances have fallen well below the historic average. Samples from 2020 represent the first improvement in adult catch over that time period, though still below the historic average. This uptick is thanks in large part to favorable recruitment of fish spawned in spring 2019. The good news for anglers is that reduced abundance of smallmouth seems to have improved growth rates. Over the next several years catch rates will likely be low but the potential to connect with quality smallmouth should improve.



Annual catch of adult Smallmouth Bass (greater than 7 inches) from 2000-2020 in the Middle James River, the red line represents the historic average catch rate.

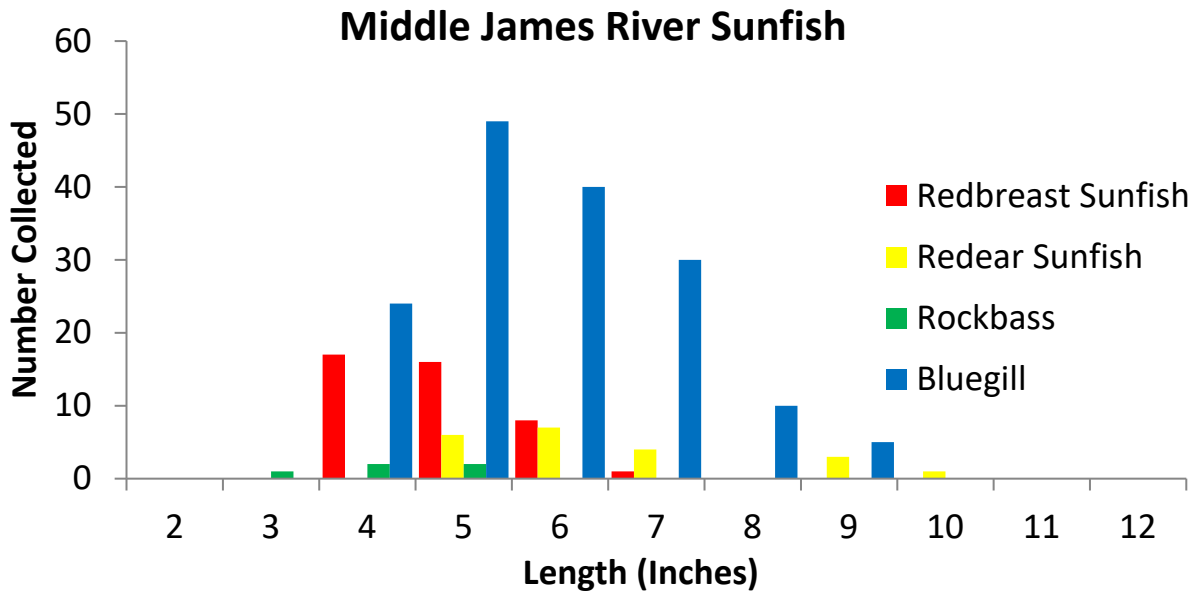
A significant factor in the negative trend in adult abundance observed over the last several years is poor spawning success and/or low survival of young Smallmouth Bass. Strong year classes have become less frequent, with only two year classes above the historic average over the last 10 years. While the modest success of the 2019 year class holds some hope for the future, the fishery is still in desperate need of a successful spawn.



Annual catch of juvenile Smallmouth Bass (less than 7 inches) from 2000-2020 in the Middle James River, the red line represents the historic average catch rate.

Sunfish:

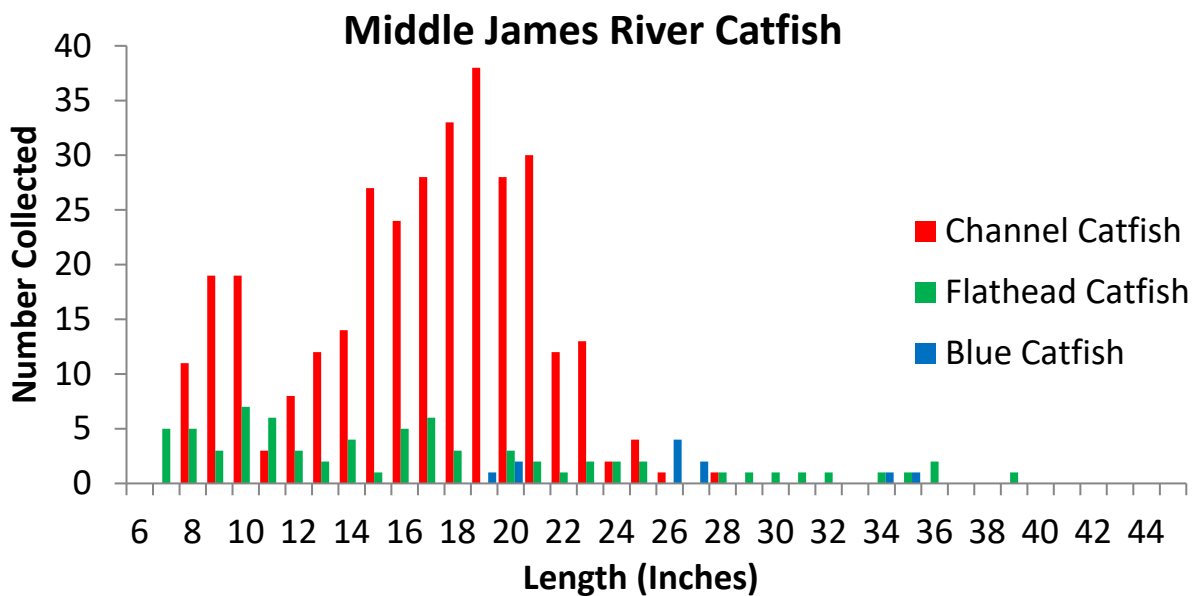
Historically, the middle James River supported healthy populations of Redbreast Sunfish, Bluegill, and Rock Bass. However, the population is now dominated by Bluegill with sparse numbers of Redbreast Sunfish, Redear Sunfish, and Rock Bass present as well. A total of 228 sunfish were collected during fall 2020 sampling efforts with Bluegill representing almost 70% of total sunfish catch. While sunfish in the middle river are not as plentiful as the upper river, and have declined noticeably in recent years, fair numbers of fish in the 5-7 inch range should provide anglers some action on light tackle. For best success with sunfish target shoreline debris and current eddies with night crawlers, crickets, beetlespins, grubs, or fly tackle. Take note of spawning beds in slack water areas during the summer months for improved success.



Numbers and sizes of Redbreast Sunfish, Redear Sunfish, Rock Bass, and Bluegill collected from the Middle James River in fall 2020.

Catfish:

While both Smallmouth Bass and sunfish numbers in the middle river continue to decline catfish numbers continue to grow. A total of 410 catfish were collected from the middle river in 2020 with channel catfish representing 80% of the catch. This stretch of river is home to an abundance of catchable size channel catfish. Good numbers of flathead catfish up to 39 inches occur in this stretch of river as well. Blue catfish are also becoming increasingly common within the middle river in recent years. Target the upper and lower ends of deep pools for catfish. Use night crawlers, chicken livers and stink bait for Channel catfish. Select live or cut bait for best success with Flathead and Blue catfish.



Number and lengths of Channel Catfish, Flathead Catfish, and Blue Catfish collected from the Middle James River in fall 2020.

For more information please contact

Hunter Hatcher

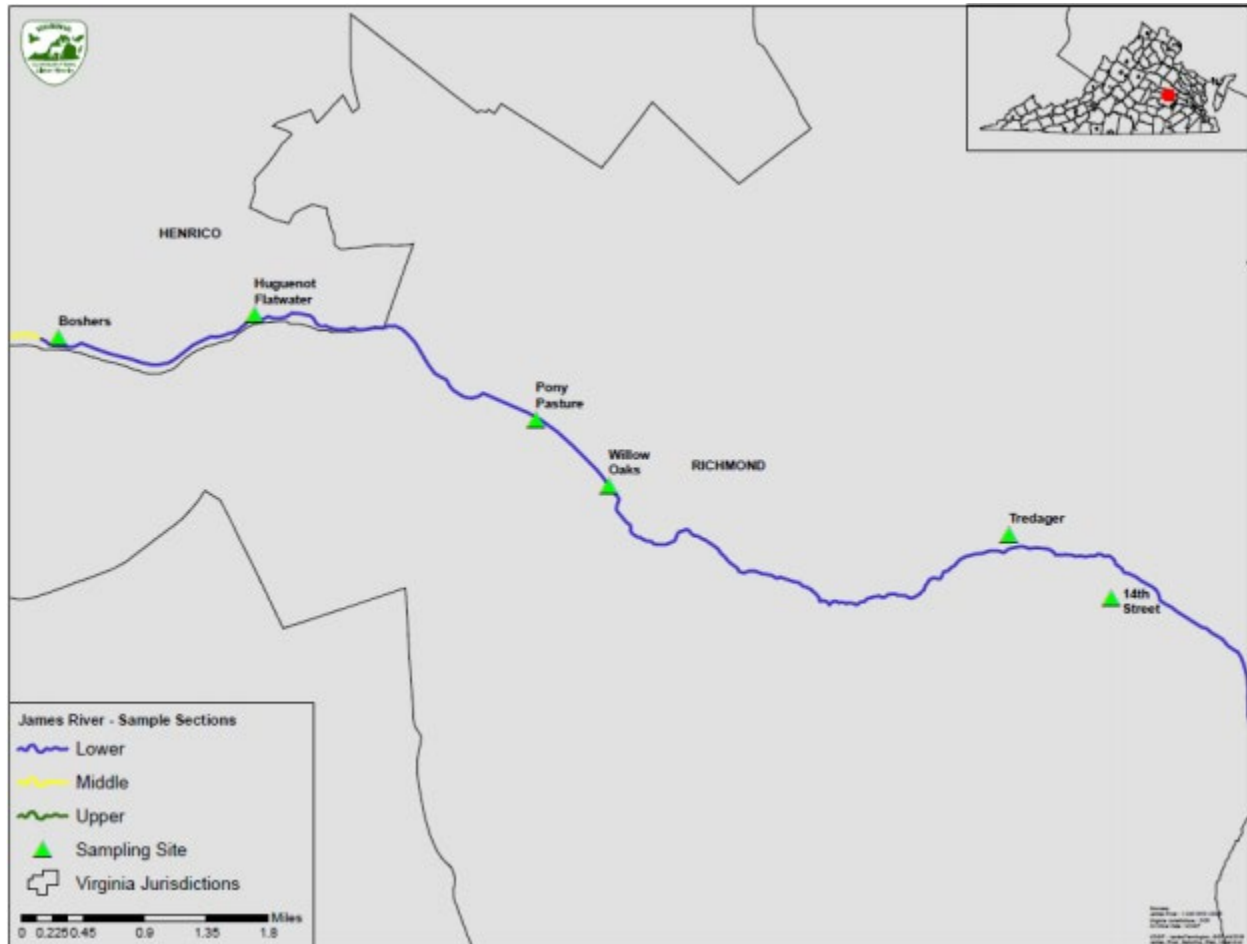
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Fall-line James River (Bosher's Dam to 14th Street Bridge)

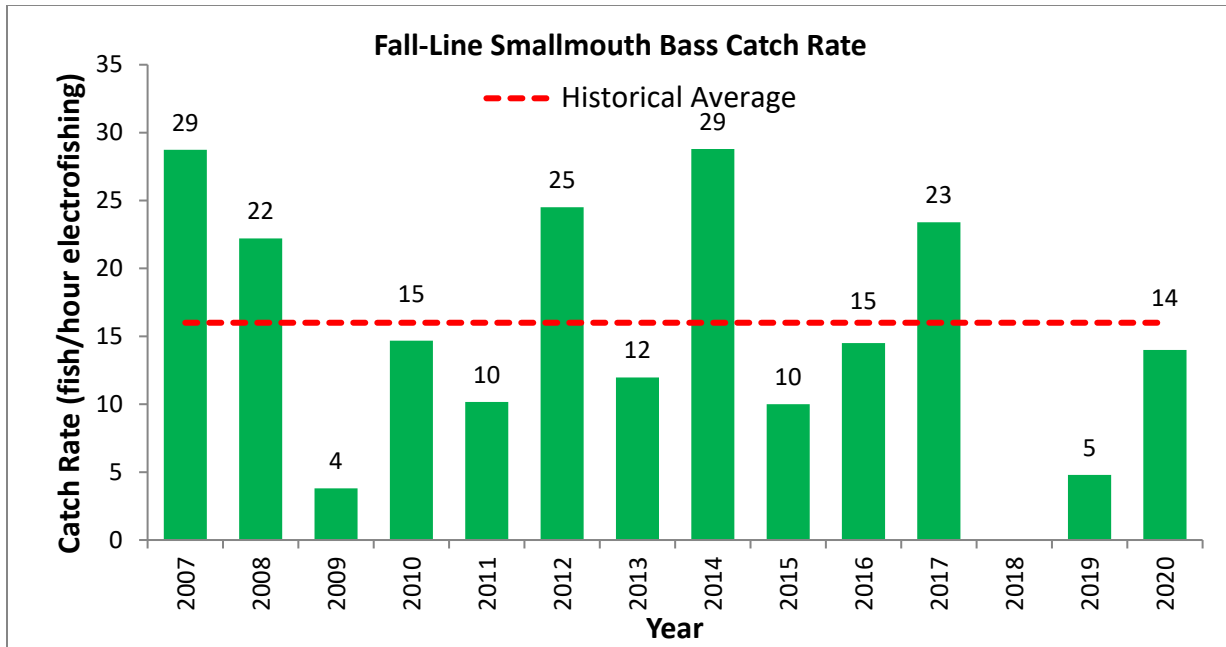
The 9-mile stretch of the James River that flows through Richmond (known locally as the Fall-Line section) separates the non-tidal and tidal portions of the James River. This section contains various habitat types including rocky outcrops, large runs, deep pools, shallow riffles, and intense rapids. The Fall-Line section is renowned for kayaking, canoeing, and has traditionally supported popular sport fisheries for trophy Smallmouth Bass, sunfish, and catfish. For a quick fish regulation guide for common species occurring in the non-tidal James River see Table 1 at the end of this report.



Map of Fall-line James River sampling locations and access sites.

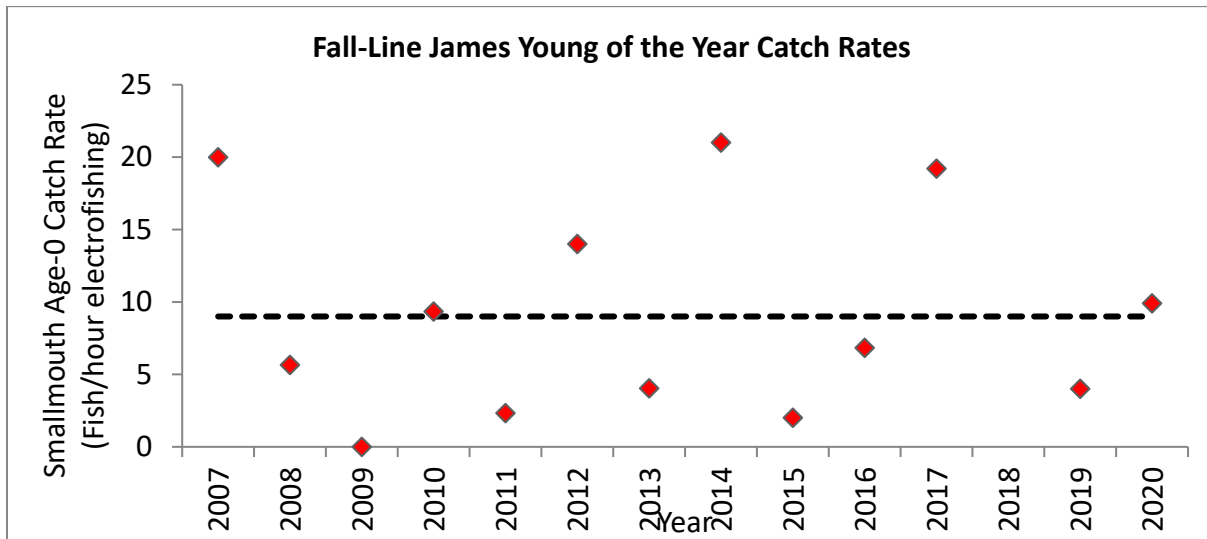
Smallmouth Bass:

Smallmouth Bass was the most abundant sportfish collected throughout the Fall-Line in 2020. Smallmouth Bass total catch was slightly lower than the historical average for the Fall-Line, but considerably higher than catches observed in the previous two years of sampling (see figure below).



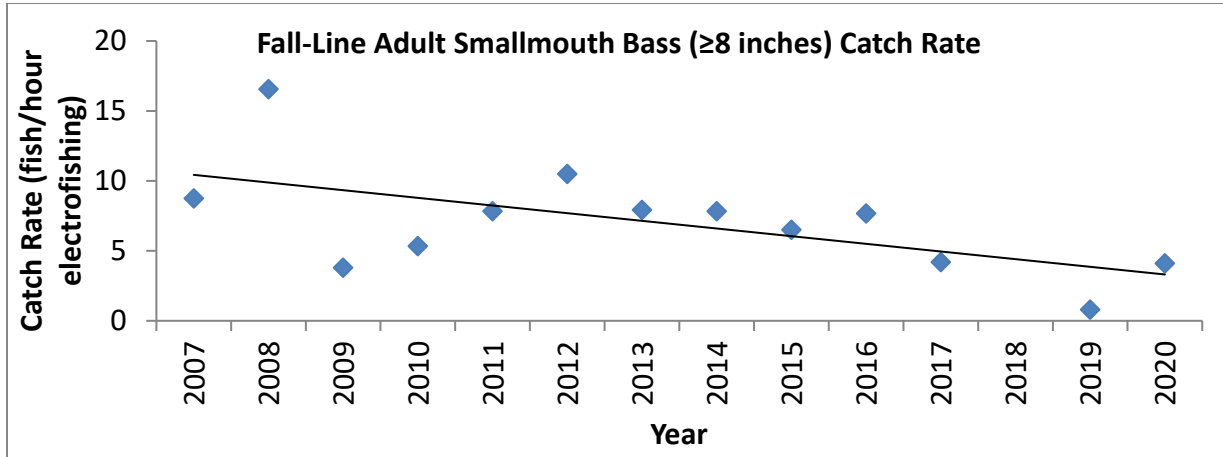
Annual catch of smallmouth bass from the Fall-Line, James River. No Sampling Occurred in fall 2018 as a result of high water levels.

The increase in catch from previous years was mainly due to catches of young-of-the-year Smallmouth Bass in 2020. Smallmouth Bass reproduction was average when compared to values observed since 2007. Unfortunately this average is much lower than values experienced in the upper and middle James (average 30 juveniles/hour) and is likely too low to bolster the Smallmouth Bass population.



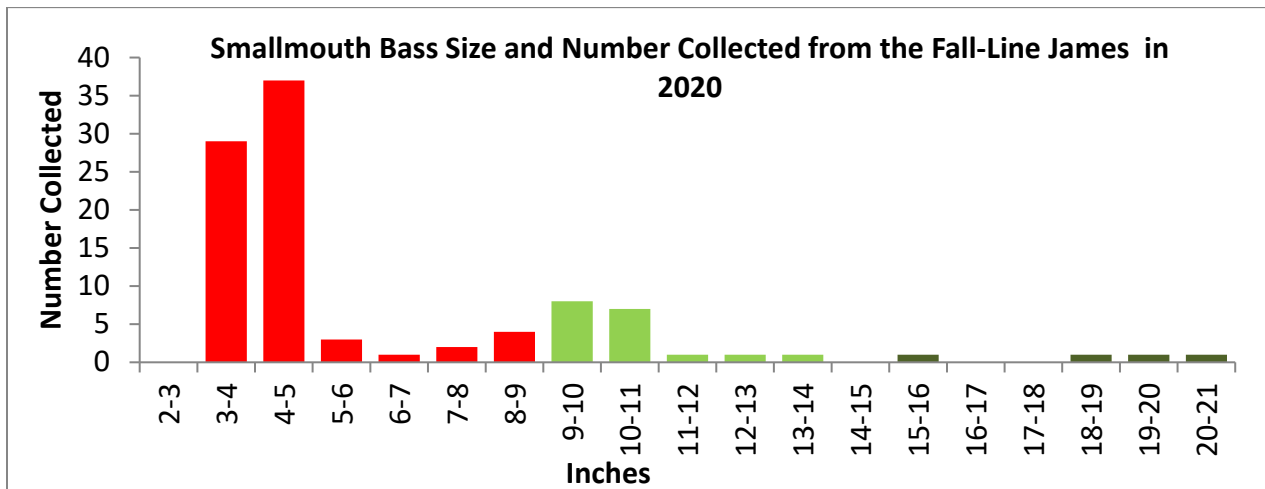
Annual catch of juvenile Smallmouth Bass (less than 7 inches) in the Fall-line James River, the dashed line represents the historic average catch rate.

Due to several years of poor and below average reproduction, the Smallmouth Bass catch continues to exhibit a downward trend in the adult population. More years of average spring flows that contribute to great bass reproduction, like in 2014 and 2017 (see previous figure), are needed to greatly increase numbers of adult Smallmouth Bass.



Annual catch of adult Smallmouth Bass (greater than 7 inches) in the Fall-line James River, the line represents the overall trend in catch rate.

Anglers should not expect to catch high numbers of adult Smallmouth Bass (> 9 inches) throughout the Fall-Line section due to reproduction issues. There are still some quality-sized and trophy-sized Smallmouth in this stretch of river (see length figure below), but anglers will have to work to catch them. The largest Smallmouth Bass collected throughout the Fall-Line in 2020 measured 20.5 inches and weighed nearly 5lbs. Smallmouth Bass spawned in 2019 and 2017 are the fish making up the majority of the Smallmouth adult population; in 2021 these fish should mostly range in size between 12 to 15 inches. The 14-22 inch protective slot limit for Smallmouth Bass should help protect the some of these fish and the remaining adult fish in the population, but the adult population needs more successful spawns and better adult survival to rebound to historic populations.



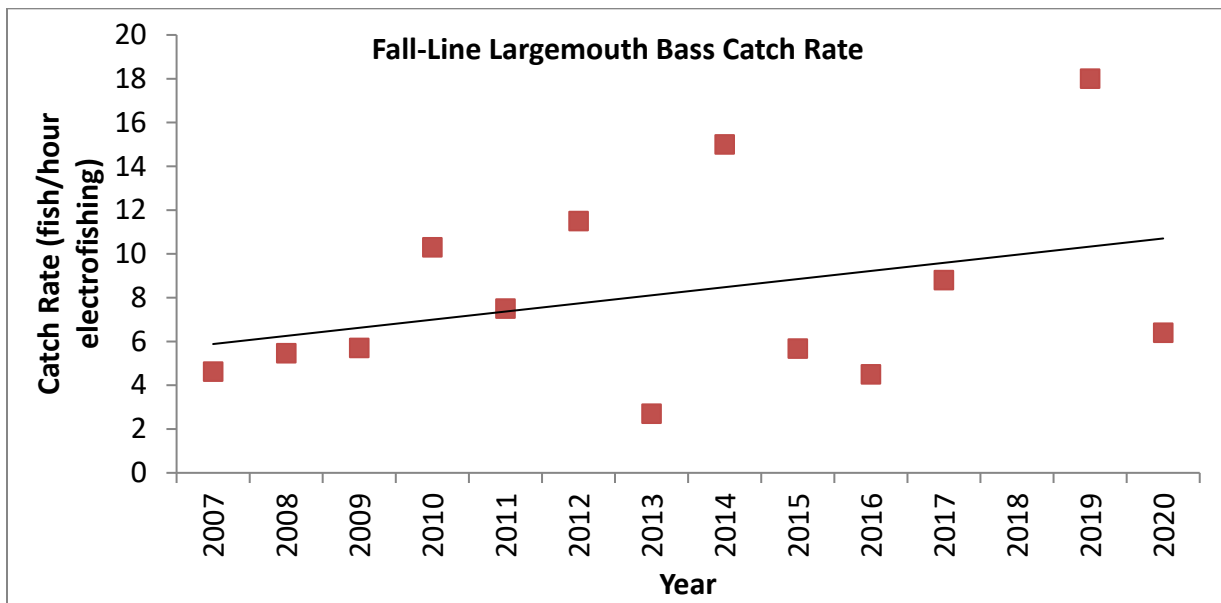
Smallmouth Bass collected from the Fall-line James River in fall 2020 by length and number. Juvenile bass (less than 7 inches) are represented with red bars, while adult smallmouth bass are

shown with green bars. Current regulations protect smallmouth bass between 14 and 22 inches (dark green bars).

Smallmouth Bass were present at all sampling sites, so anglers can expect to find them throughout the Fall-Line section. Annual surveys indicate that the best sections of the river for bass are consistently between Powwhite Bridge and Belle Island. Anglers should concentrate on shallow to mid-depth riffles or areas near the bank with some type of structure. Previous diet analysis of Smallmouth Bass indicated that the majority of them feed on shiners and crayfish. Any lures that mimic these diet items should be a must for Smallmouth Bass anglers of the James River.

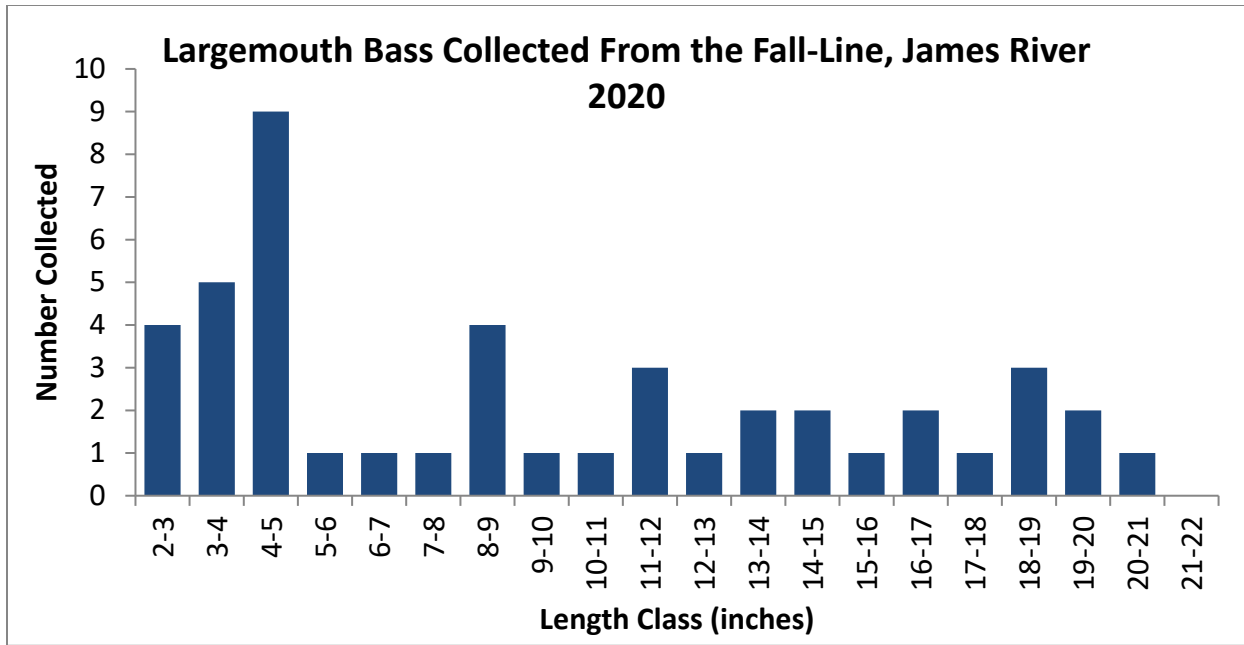
Largemouth Bass:

Largemouth Bass populations are trending up in number throughout the Fall-Line even with the 2020 catch being lower than the past two years (see figure below). The increases in catch could be a result of changing habitat or unauthorized introductions throughout the Fall-Line. The presence of small juvenile Largemouth Bass in the sample indicate that the increase is more likely caused by changing habitat which is helping Largemouth Bass reproduce more effectively.



Annual catch of Largemouth Bass from the Fall-Line, James River. The line represents the overall trend in catch rate.

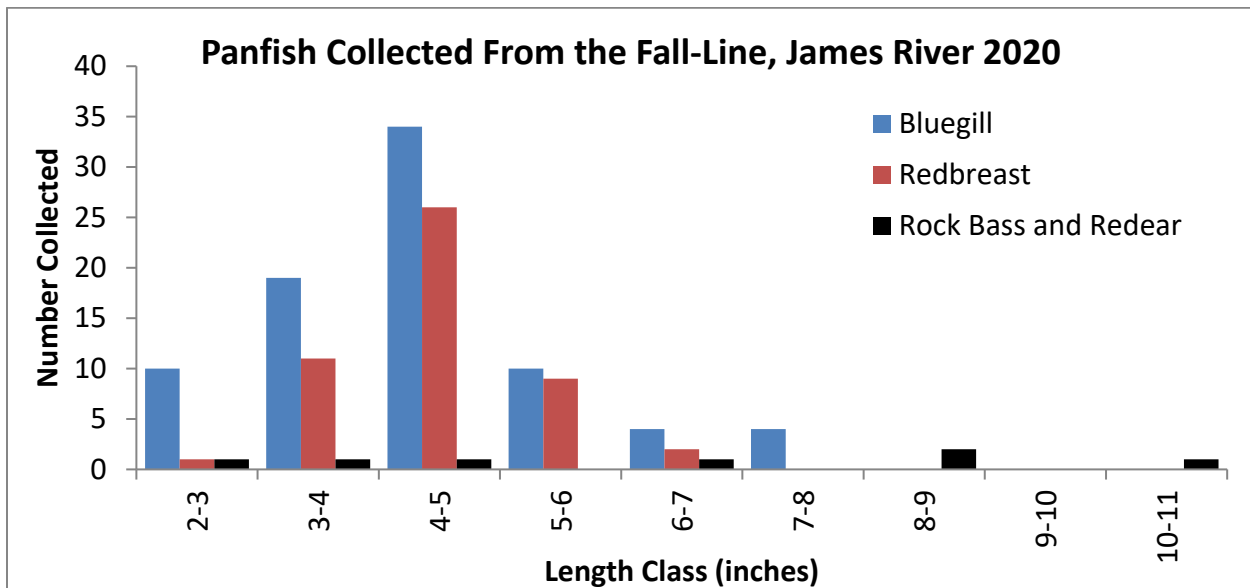
Largemouth Bass collected ranged in size from 2 to 21 inches, with the average size fish measuring 9 inches (see below). The largest Largemouth Bass collected measured 20 inches and weighed 4 lbs. Anglers targeting Largemouth Bass should concentrate on slower-flow, pool areas and shoreline areas with timber and overhanging trees.



Largemouth Bass collected from the Fall-line James River in fall 2020 by length and number.

Sunfish (excluding bass):

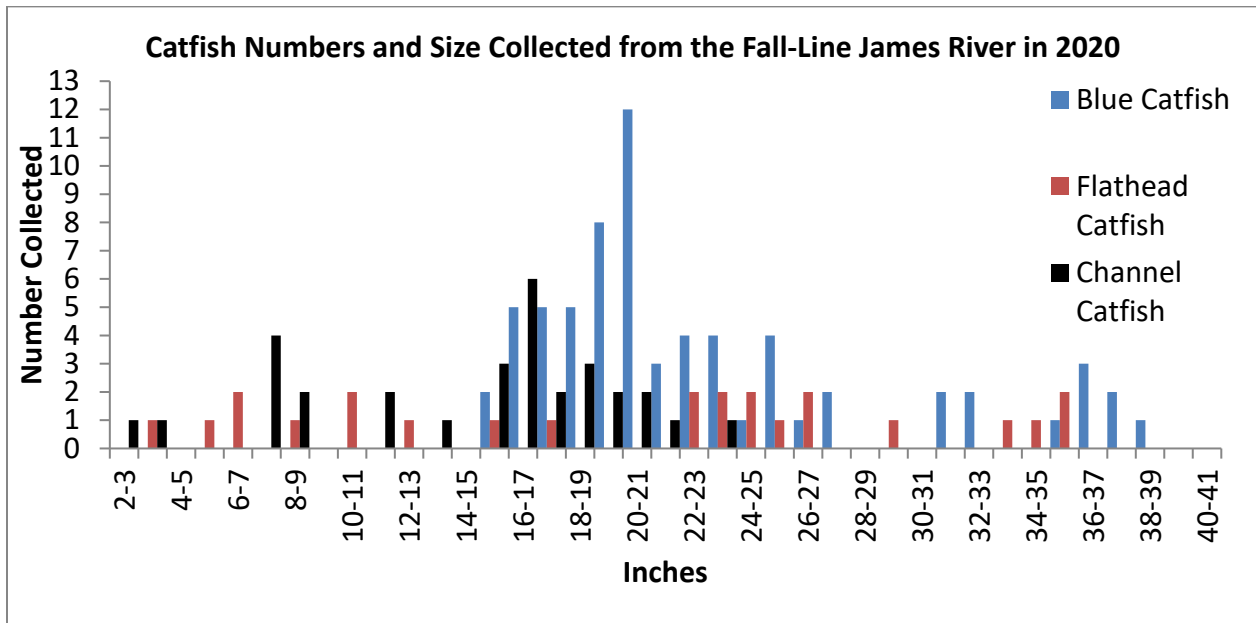
Sunfish catches were mostly composed of Bluegill and Redbreast Sunfish. Sunfish numbers continue to be below average for the Fall-Line section and reductions are primarily due to reduced catches of Redbreast Sunfish and Rock Bass. Sunfish collected were small, with the majority measuring less than 7 inches (see figure below). Sunfish were collected in all locations throughout the Fall-Line section, and anglers targeting these species should concentrate their efforts around bank structure or slack water adjacent to rocky shoals and outcrops. Small twister tailed grubs, live crickets, and worms are outstanding baits for any of the sunfish species.



Numbers and sizes of Redbreast Sunfish, Redear Sunfish, Rock Bass, and Bluegill collected from the Fall-line James River in fall 2020.

Catfish:

Catfish populations continue to be good within the Fall-Line. The Blue and Flathead catfish populations have good numbers of big fish (> 30 inches) available to anglers. Blue and Channel catfish made up the majority of the catfish collected in 2020. There is an abundance of Channel Catfish (up to 24 inches). Although the Blue and Flathead catfish make up the majority of big fish, the smaller Channels are fun to catch and the 14 to 20 inch sized catfish are the perfect size fish for a fillet dinner.



Number and lengths of catfish collected from the Middle James River in fall 2020.

Anglers looking to catch catfish should concentrate efforts on relatively deep water (greater than 6 feet deep) or waters adjacent to deep holes. The deep pockets of the Pony Pasture recreation area and the deep run just below the Wetlands recreational area (river section that flows past Willow Oaks Country Club) are great places for catfish anglers to wet a line. Anglers should try using live bait for Flatheads and cut or stink-bait for Blue and Channel catfish.

The Fall-Line section of the James can provide a rewarding trip for any angler but caution is warranted when fishing this stretch of river. The Fall-Line section is prone to flash flooding when there have been heavy rains in the head waters of the James River. Furthermore, boaters need to be conscious of the technical rapids within the Fall-Line section. Before journeying out, anglers should be aware of the current river conditions and boaters need to become familiar with the more technical rapids. To get up-to-date information on river flows and maps of the Fall-Line section, contact the James River Parks Systems at (804)646-8911 or visit their website at <http://www.jamesriverpark.org>.

For more information on the James River through Richmond, please contact:

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Table 1. Regulation (creel and length limit) table for fish species that commonly occur in the non-tidal James River

Fish Species	Creel Limit	Length Limit	Likely Occurrence Locations
Bass (largemouth, smallmouth, and spotted)	5 per day in the aggregate (combined)	No bass 14 to 22 inches, only 1 per day longer than 22 inches	Non-tidal riverwide (upper, middle, and Fall-Line)
Muskellunge	2 per day in the aggregate (combined)	No muskellunge less than 30 inches	Upper and Middle, Occasionally Fall-Line
Striped bass	Creel and length limits shall be as set by the Virginia Marine Resources Commission for recreational fishing in tidal waters		Fall-Line
Walleye	5 per day in the aggregate (combined)	No walleye or saugeye less than 18 inches	Middle and Fall-Line
Bluegill (bream) and other sunfish excluding crappie rock bass (redeye)	50 per day in the aggregate (combined)	No statewide length limits	Non-tidal riverwide (upper, middle, and Fall-Line)
Crappie (black or white)	25 per day in the aggregate (combined)	No statewide length limits	Non-tidal riverwide (upper, middle, and Fall-Line)
Rock Bass (redeye)	25 per day	No statewide length limits	Non-tidal riverwide (upper, middle, and Fall-Line)
Catfish (blue, channel, and flathead)	20 per day	No length limits	Non-tidal riverwide (upper, middle, and Fall-Line), except blue catfish mainly middle and Fall-Line
American Shad and Hickory Shad	Creel and length limits shall be as set by the Virginia Marine Resources Commission for recreational fishing in tidal waters		Fall-Line